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EXAMINER

PERVAN, MICHAEL

ART UNIT	PAPER NUMBER
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2629

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/727,237

Applicant(s)

MOLANDER ET AL.

Examiner

Michael Pervan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 21 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 and 21-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 and 21-27 is/are rejected.
- 7) ☒ Claim(s) 28 and 29 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 15 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-8, 15-16, 18 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al (US 6,373,961; as submitted by applicant) in view of Levine et al (US 5,214,414; as submitted by applicant).

In regards to claim 1, Richardson discloses a computer program product comprising a computer readable medium having computer readable program code embodied therein for causing a computer to control the position of a visual pointer using an eye tracking apparatus by (col. 3, line 63-col. 4, line 5; computer readable program code embodied (properly programmed) on a computer readable medium (processor)):

moving a visual pointer from a first location to a second location that corresponds to a user's eye orientation based on input received from the eye tracking apparatus (col. 9, lines 38-49).

Richardson does not disclose providing a visual indicator between the first location and the second location.

Levine discloses providing a visual indicator (visual "trail" 12b) between the first location and the second location (Fig. 1 and col. 4, lines 10-13).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 2, Richardson discloses a computer program product as in claim 1, wherein the visual indicator comprises a substantially linear display element (Fig 1; visual indicator (visual "trail" 12b) is in a substantially linear display).

In regards to claim 3, Richardson does not disclose a computer program product as in claim 1, wherein the visual indicator comprises a substantially circular display element.

However, Richardson discloses a computer program product as in claim 1, wherein the visual indicator comprises a substantially linear display element.

Since, there is no benefit or advantage to having a circular display element instead of a linear display element described in the specification, it would have been obvious to one of ordinary skill in the art to either have a linear display element or a circular display element based on a designer's choice.

In regards to claim 4, Richardson does not disclose a computer program product as in claim 1, wherein the visual indicator provides visual continuity between the first location and the second location of the visual pointer.

Levine discloses a computer program product as in claim 1, wherein the visual indicator provides visual continuity between the first location and the second location of

the visual pointer (Fig. 1; visual indicator (visual "trail" 12b) provides a visual continuity between the first location (prior location) and second location (present location)).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 5, Richardson does not disclose a computer program product as in claim 1, wherein the visual indicator indicates the first location of the visual pointer and the second location of the visual pointer.

Levine discloses a computer program product as in claim 1, wherein the visual indicator indicates the first location of the visual pointer and the second location of the visual pointer (Fig. 1; visual indicator (visual "trail" 12b) indicates the first location (prior location) and the second location (present location)).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 6, Richardson does not disclose a computer program product as in claim 1, wherein the visual indicator provides a spatial relationship between the first location of the visual pointer and the second location of the visual pointer.

Levine discloses a computer program product as in claim 1, wherein the visual indicator provides a spatial relationship between the first location of the visual pointer

and the second location of the visual pointer (Fig. 1; as can be seen in the drawing the closer the locations are to each other, fewer visual indicators (visual "trail" 12b) are shown).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 7, Richardson does not disclose a computer program product as in claim 1, wherein the visual indicator comprises a graphic animation of a spatial relationship between the first location and the second location of the visual pointer.

Levine discloses a computer program product as in claim 1, wherein the visual indicator comprises a graphic animation of a spatial relationship between the first location and the second location of the visual pointer (Fig. 1; as can be seen in the drawing visual indicators (visual "trail" 12b) comprises a graphic animation (shape of a triangle).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 8, Richardson discloses a computer program product as in claim 1, wherein moving the visual pointer to the second location is based on inferring user intent from the user's detected eye orientation (col. 9, lines 38-49).

In regards to claim 15, Richardson discloses a computer system comprising:
a processor (col. 3, lines 63-col. 4, line 5);
a visual display output coupled to said processor (col. 3, line 63-col. 4, line 5);
said processor comprising an input for receiving a signal from an eye tracking apparatus (col. 9, lines 50-51), the eye tracking apparatus for monitoring a user's eye movements (col. 9, lines 38-49), and said processor providing a signal at said visual display output for moving a visual pointer from a first location to a second location corresponding to the user's eye orientation (col. 9, line 60-col. 10, line 5).

Richardson does not disclose generating a visual indicator between the first location and the second location.

Levine discloses generating a visual indicator between the first location and the second location (Fig. 1 and col. 4, lines 10-13).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 16, Richardson does not disclose a computer system as in claim 15, wherein the visual indicator comprises a substantially linear display element.

Levine discloses a computer system as in claim 15, wherein the visual indicator comprises a substantially linear display element (Fig 1; visual indicator (visual "trail" 12b) is in a substantially linear display).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 18, Richardson discloses a computer implemented method for eye track assisted pointer positioning comprising:

operating an eye tracking apparatus to monitor a user's eye movements as the user views a visual display (col. 9, lines 38-49);

detecting the user's eye orientation, relative to the visual display (col. 9, lines 38-49);

moving a visual pointer from a first location to a second location of the visual display that corresponds to the user's eye orientation (col. 9, line 60-col. 10, line 5).

Richardson does not disclose providing a visual indicator in the visual display between the first location and the second location (Fig. 1 and col. 4, lines 10-13).

Levine discloses providing a visual indicator in the visual display between the first location and the second location.

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 21, Richardson does not disclose a computer implemented method as in claim 18, wherein the visual indicator provides visual continuity between the first location and the second location of the visual pointer.

Levine discloses a computer implemented method as in claim 18, wherein the visual indicator provides visual continuity between the first location and the second location of the visual pointer (Fig. 1; visual indicator (visual "trail" 12b) provides a visual continuity between the first location (prior location) and second location (present location)).

It would have been obvious at the time of invention to modify Richardson with the teachings of Levine, visual indicator between first and second location, by incorporating the teachings of Levine into the device of Richardson because it increases the visibility of the cursor (col. 1, lines 28-32).

In regards to claim 22, Richardson discloses a computer implemented method as in claim 18, wherein moving the visual pointer to the second location is based on inferring user intent from the user's detected eye orientation (col. 9, lines 38-49).

3. Claims 9-12 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al in view of Levine et al in further view of Murrell et al (US 5,339,094).

In regards to claim 9, Richardson and Levine do not disclose a computer program product as in claim 1, wherein a reading guide is provided to a user for assisting the user in reading displayed text.

Murrell discloses a computer program product as in claim 1, wherein a reading guide is provided to a user for assisting the user in reading displayed text (col. 3, lines 30-55).

It would have been obvious at the time of invention to modify Richardson and Levine with the teachings of Murrell, line marker, by incorporating the teachings of Murrell into the device of Richardson and Levine because it makes it easier to locate a specific line or point on the display (col. 1, lines 8-15).

In regards to claim 10, Richardson, Levine and Murrell do not disclose a computer program product as in claim 9, wherein the reading guide comprises an open bracket.

However, Murrell discloses a thick line emulating a marker pen or a thin line emulating underlining (col. 7, lines 16-17).

Since, there is no benefit or advantage to having a reading guide comprising an open bracket instead of a thick or thin line described in the specification, it would have been obvious to one of ordinary skill in the art to either have a thick or thin line or a bracket based on a designer's choice.

In regards to claim 11, Richardson, Levine and Murrell do not disclose a computer program product as in claim 9, wherein the reading guide is positioned in a margin of the displayed text.

However, Murrell discloses having the thin or thick line highlight the text (col. 7, lines 16-21).

Since, there is no benefit or advantage to having a reading guide positioned in the margin instead of a thick or thin line highlighting the text described in the specification, it would have been obvious to one of ordinary skill in the art to either have a thick or thin line for highlighting text or the reading guide positioned in the margin based on a designer's choice.

In regards to claim 12, Richardson, Levine and Murrell do not disclose a computer program product as in claim 9, wherein the reading guide is positioned to the left of a line being read.

However, Murrell discloses having the thin or thick line highlight the text (col. 7, lines 16-21).

Since, there is no benefit or advantage to having a reading guide positioned to the left of a line being read instead of a thick or thin line highlighting the text described in the specification, it would have been obvious to one of ordinary skill in the art to either have a thick or thin line for highlighting text or the reading guide positioned to the left of a line being read based on a designer's choice.

In regards to claim 17, Richardson and Levine do not disclose a computer system as in claim 15, wherein the visual indicator comprises a reading guide for assisting the user in reading displayed text.

Murrell discloses a computer system as in claim 15, wherein the visual indicator comprises a reading guide for assisting the user in reading displayed text. (col. 3, lines 30-55).

It would have been obvious at the time of invention to modify Richardson and Levine with the teachings of Murrell, line marker, by incorporating the teachings of Murrell into the device of Richardson and Levine because it makes it easier to locate a specific line or point on the display (col. 1, lines 8-15).

4. Claims 23-25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al in view of Murrell et al (US 5,339,094).

In regards to claim 23, Richardson discloses a computer implemented method for eye track assisted pointer positioning comprising:

operating an eye tracking apparatus to monitor a user's eye movements as the user views a visual display (col. 9, lines 38-49);

detecting the user's eye orientation, relative to the visual display (col. 9, lines 38-49).

Richardson does not disclose providing a reading guide to the user for assisting the user in reading displayed text and moving the reading guide from a first location to a second location of the visual display that corresponds to the user's eye orientation.

However, Richardson discloses moving the visual indicator from a first location to a second location of the visual display that corresponds to the user's eye orientation.

It would be obvious at the time of invention to one skilled in the art to use the eye tracking device of Richardson with the reading guide of Murrell to move the reading guide from a first location to a second location.

Murrell discloses providing a reading guide to the user for assisting the user in reading displayed text (col. 3, lines 30-55).

It would have been obvious at the time of invention to modify Richardson with the teachings of Murrell, line marker, by incorporating the teachings of Murrell into the device of Richardson because it makes it easier to locate a specific line or point on the display (col. 1, lines 8-15).

In regards to claim 24, Richardson and Murrell do not disclose a computer implemented method as in claim 23, wherein the reading guide comprises an open bracket.

However, Murrell discloses a thick line emulating a marker pen or a thin line emulating underlining (col. 7, lines 16-17).

Since, there is no benefit or advantage to having a reading guide comprising an open bracket instead of a thick or thin line described in the specification, it would have been obvious to one of ordinary skill in the art to either have a thick or thin line or a bracket based on a designer's choice.

In regards to claim 25, Richardson and Murrell do not disclose a computer implemented method as in claim 23, wherein the reading guide is positioned in a margin of the displayed text.

However, Murrell discloses having the thin or thick line highlight the text (col. 7, lines 16-21).

Since, there is no benefit or advantage to having a reading guide positioned in the margin instead of a thick or thin line highlighting the text described in the specification, it would have been obvious to one of ordinary skill in the art to either have

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a thick or thin line for highlighting text or the reading guide positioned in the margin based on a designer's choice.

5. Claims 13-14 and 26-27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Richardson et al in view of Levine et al in view of Murrell et al in further view of Lemelson et al (US 6,351,273).

In regards to claim 13, Richardson, Levine and Murrell do not disclose a computer program product as in claim 9, wherein the reading guide scrolls lines of displayed text in response to the user's eye orientation based on input received from the eye tracking apparatus.

Lemelson discloses a computer program product as in claim 9, wherein the reading guide scrolls lines of displayed text in response to the user's eye orientation based on input received from the eye tracking apparatus (col. 3, lines 55-65; since the eye tracking of Richardson, Levine and Murrell causes a reading guide to move around on the screen and Lemelson teaches scrolling text based on eye gazing, when used in combination, the reading guide would scroll text displayed on a screen).

It would have been obvious at the time of invention to modify Richardson, Levine and Murrell with the teachings of Lemelson, text scrolling using eye gaze, by incorporating the teachings of Lemelson into the device of Richardson, Levine and Murrell because it makes reading text more fluid since the text would scroll at the same rate as the eyes move down the screen.

In regards to claim 14, Richardson, Levine, Murrell and Lemelson do not disclose a computer program product as in claim 9, wherein the reading guide is changed to a visual pointer based on sensing an eye movement of the user.

It would be obvious at the time of invention to one of ordinary skill in the art to modify Richardson, Levine, Murrell and Lemelson so that the reading guide changes to a visual indicator and vice versa because a user will always be reading text so there would need to be a way to switch between a reading guide and a visual indicator.

In regards to claim 26, Richardson, Levine and Murrell do not disclose a computer implemented method as in claim 23, wherein the reading guide scrolls lines of displayed text in response to the user's eye orientation based on input received from the eye tracking apparatus.

Lemelson discloses a computer implemented method as in claim 23, wherein the reading guide scrolls lines of displayed text in response to the user's eye orientation based on input received from the eye tracking apparatus (col. 3, lines 55-65; since the eye tracking of Richardson, Levine and Murrell causes a reading guide to move around on the screen and Lemelson teaches scrolling text based on eye gazing, when used in combination, the reading guide would scroll text displayed on a screen).

It would have been obvious at the time of invention to modify Richardson, Levine and Murrell with the teachings of Lemelson, text scrolling using eye gaze, by incorporating the teachings of Lemelson into the device of Richardson, Levine and Murrell because it makes reading text more fluid since the text would scroll at the same rate as the eyes move down the screen.

In regards to claim 27, Richardson, Levine, Murrell and Lemelson do not disclose a computer implemented method as in claim 23, wherein the reading guide is changed to a visual pointer based on sensing an eye movement of the user.

It would be obvious at the time of invention to one of ordinary skill in the art to modify Richardson, Levine, Murrell and Lemelson so that the reading guide changes to a visual indicator and vice versa because a user will always be reading next so there would need to be a way to switch between reading guide and a visual indicator.

Allowable Subject Matter

6. Claims 28-29 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter:

Claim 28 recites among other features automatically repositioning the reading guide to the beginning of a consecutive line of the text in response to the eye tracking apparatus determining the user approaches the end of a line of text.

The examiner was unable to find a reference or combination of references that teach or suggest the above limitation.

However, Richardson, Levine, Murrell and Lemelson when combined teach a reading guide which scrolls consecutive lines of text by tracking the gaze of a user's eyes.

Response to Arguments

7. Applicant's arguments filed March 21, 2007 have been fully considered but they are not persuasive.

Applicant (on page 6 of argument) argues that Richardson cannot be modified to include the teachings of Levine because Richardson does not disclose having more than a single mark on a display. Examiner respectfully disagrees.

If Richardson had disclosed having more than a single mark on a display then there would not have been a need to bring in a secondary reference, in this case Levine, to teach having more than a single mark on a display. Also merely stating that Richardson cannot be modified is not sufficient, therefore the rejection is maintained.

Applicant (on page 7-8 of argument) argues that Richardson and Murrell are not combinable because Richardson does not teach a reading guide and Murrell does not teach moving a reading guide via eye tracking. Examiner respectfully disagrees.

If Richardson had disclosed having a reading guide then there would not have been a need to bring in a secondary reference, in this case Murrell, to teach having a reading guide. Modifying Richardson with the teaching of Murrell, reading guide which is moved with keys instead of eye tracking, would be possible by one who is skilled in the art because instead of using keys to move the reading guide, the eye tracking would be used in its place.

Applicant (on page 8 of argument) argues that Richardson and Murrell do not disclose an open bracket or having the reading guide in the margin. Examiner respectfully disagrees.

The examiner did not use Richardson or Murrell to teach an open bracket or having the reading guide in the margin, but that these would be mere design choices based on functionality of the reading guide of Richardson and Murrell is the same regardless of its positioning and type.

Conclusion

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Pervan whose telephone number is (571) 272-0910. The examiner can normally be reached on Monday - Friday between 8am - 5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


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June 6, 2007

AMR A. AWAD
SUPERVISORY PATENT EXAMINER

A handwritten signature in black ink, appearing to read "Amr A. Awad", with a large, sweeping flourish at the end.